NON-PUBLIC?: N
ACCESSION #: 8808020371

LICENSEE EVENT REPORT (LER)

FACILITY NAME: Braidwood, Unit 2 PAGE: 1 of 3

DOCKET NUMBER: 05000457

TITLE: Unit 2 Reactor Trip U-2 Rx Trip on Lo-2 2B S/G Level
EVENT DATE: 06/24/88 LER #: 88-016-00 REPORT DATE: 07/19/88

OPERATING MODE: 1 POWER LEVEL: 021

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR SECTION
50.73(a)(2)(iv)

LICENSEE CONTACT FOR THIS LER:
NAME: Cheryl Melone, Technical Staff Engineer
TELEPHONE #: 815-458-2801 Ext. 2400

COMPONENT FAILURE DESCRIPTION:
CAUSE: X SYSTEM: IS COMPONENT: 20** MANUFACTURER: M120
REPORTABLE TO NPRDS: N

SUPPLEMENTAL REPORT EXPECTED: No

ABSTRACT: At 1221 on June 24, 1988, a Reactor Trip occurred on 2B Steam Generator (S/G) Low-Low Level. The Auxiliary Feedwater Pumps automatically started to maintain S/G levels as designed. The cause of the Low-Low S/G level was the failure of 2HD122, Heater Drain Tank makeup valve. The valve failed open as a result of the feedback cam falling off. The cam provides appropriate supply and positioning control air to the makeup valve. Failure of 2HD122 in the fully open position caused the Condensate Booster Pump discharge pressure to decrease resulting in a loss of feedwater flow. The Reactor Trip occurred approximately 60 seconds after the loss of feedwater flow. System parameters did not decrease to the automatic actuation setpoint to start the standby Condensate/Condensate Booster Pump. The immediate corrective action was to recover the Steam Generator levels and establish stable conditions. Valve 2HD122 was repaired utilizing loc-tite prior to returning the unit to service. Monitoring of this valve by the Instrument Maintenance Department, since it's repair, has shown no degradation. A walkdown of Secondary Feedwater Loop Systems was performed with no abnormalities found. There have been no previous occurrences of a feedback cam failure.

(End of Abstract)

Energy Industry Identification System (EIIS) codes are identified in the text as (xx)

A. PLANT CONDITIONS PRIOR TO EVENT:

Unit: Braidwood 2; Event Date: June 24, 1988; Event Time: 1221
MODE: 1 - Power Operations; Rx Power: 21%;
RCS (AB) Temperature/Pressure: NQT/NQP

B. DESCRIPTION OF EVENT:

There were no systems or components inoperable at the beginning of the event which contributed to the severity of the event.

At 1221 on June 24, 1988, a reactor trip occurred on 2B Steam Generator (S/G) Low-Low Level (JB). The Auxiliary Feedwater Pumps (BA) automatically started to maintain S/G levels as designed.

Prior to the start of this event the 2A and 2B Condensate/Condensate Booster Pumps (SD), the 2B Heater Drain Pump (SI) and the 2C Turbine Driven Feedwater Pump (SJ) were operating. The Heater Drain Pump discharge valves were in manual control which is considered a normal system configuration at low power levels. One of the Condensate/Condensate Booster Pumps which was not being used was placed in the automatic start position. Just prior to the Steam Generator level transient, a High-High Heater Drain Tank Level Alarm annunciated in the Main Control Room. The Reactor Trip occurred approximately 60 seconds after the High-High Heater Drain Tank Level Alarm.

Operator actions neither increased nor decreased the severity of the event.

The appropriate NRC notification via the ENS Phone System was made at 1312 on June 24, 1988, pursuant to 10CFR50.72(a)(2)(ii).

This event is being reported pursuant to 10CFR50.73(a)(2)(iv) - any event or condition that resulted in manual or automatic actuation of any engineered safety feature, including the reactor protection system.

C. CAUSE OF EVENT:

The cause of the Low-Low S/G level was the failure of 2HD122, Heater Drain Tank Makeup Valve. The valve failed open as a result of the feedback cam falling off. The cam provides appropriate supply and positioning control air to the makeup valve.

Failure of 2HD122 in the fully open position caused the Condensate Booster Pump discharge pressure to decrease resulting in a loss of feedwater flow. System parameters did not decrease to the automatic actuation setpoint to start the standby condensate/condensate booster pump.

D. SAFETY ANALYSIS:

There was no affect on plant or public safety as all engineered safety features operated as designed. Under worst case conditions of operating at 100% power, with a design-basis loss of feedwater there would be no impact on the safety of the plant or public as this is enveloped by the Final Safety Analysis Report (FSAR). The Auxiliary Feedwater System was operable throughout the event.

E. CORRECTIVE ACTIONS:

The immediate corrective action was to recover the Steam Generator levels and establish stable conditions.

Valve 2HD122 was repaired utilizing Loc-tite prior to returning the unit to service. The Instrument Maintenance Department has monitored this valve and cam and no degradation has occurred since repair.

After the plant was brought back up the Technical Staff performed walkdowns on the secondary side of the plant to identify any abnormalities which may contribute to equipment failure such as excessive vibrations and level oscillations. No significant abnormalities were found.

This is considered an isolated event and as
result no additional
corrective actions are proposed.

F. PREVIOUS OCCURRENCES:

There have been no previous occurrences of a Feedback Cam failure.

G. COMPONENT FAILURE DATA:

MANUFACTURER NOMENCLATURE MODEL NUMBER MFG PART NUMBER

Masoneilan Valop Cam Camflex II Series 4600 Part Ref. Number 5

ATTACHMENT # 1 TO ANO # 8808020371 PAGE: 1 of 1

Commonwealth Edison
Braidwood Nuclear Power Station
Route #1, Box 84
Braceville, Illinois 60407
Telephone 815/458-2801

BW/88-794

July 21, 1988

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

Dear Sir:

The enclosed Licensee Event Report from Braidwood Generating Station is being transmitted to you in accordance with the requirements of 10CFR50.73(a)(2)(iv) which requires a 30 day written report.

This report is number 88-016-00; Docket No. 50-457.

Very truly yours,
/s/ for
R. E. Querio
Station Manager
Braidwood Nuclear Station

REQ/PMB/jab
(7126z)

Enclosure: Licensee Event Report No. 88-016-00
cc: NRC Region III Administrator
NRC Resident Inspector
INPO Record Center
CECo Distribution List

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